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ABSTRACT

This manual is intended to assist special educators and vocational educators in determining the vocational readiness skills of special needs students. The information in this Missouri inventory is based on data provided by the Michigan Occupational Data Analysis System (ODAS) as a part of the Vocational-Technical Education Consortium of States (V-TECS). The manual includes the following occupational cluster areas: agriculture, business and office, marketing and cooperative education, health occupations, occupational home economics, trade and technical, and employability and study skills. Each cluster area, except employability and study skills, includes a list of program areas by Classification of Instructional Programs (CIP) code and sample occupations from program areas by Dictionary of Occupational Titles (DOT) code. For each program area, access skills are listed in five areas: math skills; physical demands and working environment; aptitudes; temperament; and vocational skills. The manual is tied to the Missouri Vocational Administrative Management System (VAMS) software package that can provide a printout of the skills for each program area with space to indicate whether a student has mastered the skills. (CML)

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ACCESS SKILLS

Vocational Readiness Skills Inventory for Special Needs Students

(Revised Entry Level Skills Inventory)



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July, 1987

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INTRODUCTION

Identifying the skills needed to enter a vocational education program as well as succeed in that program has always been a concern for educators. The problem became even more relevant with the mandates of the Carl D. Perkins Vocational Education Act (P.L. 98-524), specifically: (1) equal access will be provided to special needs students in recruitment, enrollment and placement; (2) information will be provided to special needs students and their parents regarding the vocational education opportunities available and the eligibility requirements for enrollment in such programs; and (3) students' interests, abilities and special needs will be assessed with respect to successfully completing a vocational education program.

Missouri LINC has been actively providing local education agencies assistance in these three areas, even before the mandates of P.L. 98-524 became federal law, through the *Entry Level Skills Criteria (ELSC) Manual*. Over 35 ELSC workshops have been conducted throughout Missouri during the last 3 years. Entry Level Skills has been one of Missouri LINC's "best sellers", but eventually even best sellers need revisions. As vocational education changed at both the federal and state level, the decision was made to revise the original ELSC as well as change the name to be in accordance with language in P. L. 98-524, the Carl D. Perkins Act.

What are ACCESS SKILLS?

ACCESS SKILLS are defined as those skills which appear to be correlated to success in vocational education programs. If a student acquires as many of these skills as possible, the chance of success is higher for the chosen vocational program. The ACCESS SKILLS are negotiable skills; that is, students who are deficient in one or more areas may still enter vocational programs. Through assessment, these weak areas will be determined and vocational instructors and support personnel can then continue to work on the skills during vocational training. There has always been a great deal of confusion with the original term "entry level skills". This terminology in vocational education usually refers to the skills needed to enter the world of work. "ACCESS SKILLS" better explains the objective: to identify, assess and teach skills needed to access vocational education programs.

The ACCESS SKILLS will be available in several manuals:

- (1) **ACCESS SKILLS: Vocational Readiness Skills Inventory for Special Needs Students** (Revised Entry Level Skills Inventory) - ACCESS SKILLS have been identified for vocational programs listed on the Vocational Administrative Management System (VAMS). Skill areas include math, physical demands/working environment, aptitudes, temperament and vocational. Sample occupational areas, Classification of Industrial Programs (CIP) codes, and Dictionary of Occupational Titles (DOT) codes have been included as well as employability and study skills. The ACCESS SKILLS lists will also be included on VAMS.
- (2) **ACCESS SKILLS: Employability and Study Skills Assessment and Curriculum Guide** - includes informal assessment instruments to assess thirty-five employability and study skills with instructional activities included to teach each skill to junior/senior high and postsecondary students.
- (3) **ACCESS SKILLS: Vocational Readiness Skills for Agriculture**

- (4) **ACCESS SKILLS: Vocational Readiness Skills for Business & Office**
- (5) **ACCESS SKILLS: Vocational Readiness Skills for Marketing & Cooperative Education**
- (6) **ACCESS SKILLS: Vocational Readiness Skills for Health Occupations**
- (7) **ACCESS SKILLS: Vocational Readiness Skills for Occupational Home Economics**
- (8) **ACCESS SKILLS: Vocational Readiness Skills for Trade & Technical**

The ACCESS SKILLS manuals (3-8) were developed by occupational cluster areas (i.e., Vocational Readiness Skills for Business and Office) and include the lists from this **Vocational Readiness Skills Inventory for Special Needs Students** as well as curriculum modules to teach the different ACCESS SKILLS.

Information in this Manual

In 1982, vocational education in Missouri began developing the Vocational Instructional Management System (VIMS). VIMS is a competency based approach which allows vocational instructors to define and measure the knowledge, skills, and attitudes students need to acquire in specific occupational areas for at least entry level employment. The Management System includes identification of program goals, occupational/job analysis, performance objectives, instructional delivery methods, competency measures and competency profiles.

To assist vocational educators in developing VIMS for their particular program, the Department of Elementary and Secondary Education, Division of Vocational and Adult Education, became a member of the Vocational-Technical Education Consortium of States (V-TECS). V-TECS has a membership of approximately 20 states as well as the 4 armed services. Each state, in fulfilling its membership, agrees to develop any of the following products:

- (1) catalogs of performance objectives and performance guides - these include the duties and tasks necessary to work in a specific occupational area;
- (2) curriculum guides; and
- (3) criterion-referenced test items.

The information in this inventory is based on the data provided by the Occupational Data Analysis System (ODAS). ODAS is Michigan's contribution to V-TECS. It is a computer-based system that provides the information for math level, physical demands/working environment, aptitudes, and temperament.

ACCESS SKILLS and VAMS

The Division of Vocational and Adult Education has also developed a Vocational Administrative Management System (VAMS) for the area vocational technical schools to facilitate the VIMS process. VAMS is a software package that includes a listing of the duties and tasks, a record keeping system to document when students have mastered a task and the ACCESS SKILLS. Criterion-referenced test items can also be included. Figures 1 and 2 are sample printouts of access skills from VAMS.

FIGURE 1

Sample VAMS List of Access Skills, CIP, Duties and Tasks

Program Area: 070600

Program area: 070600 - SECRETARIAL/CLERICAL SCI

Duty: A - MATH SKILLS

- Task: 001 - Count two-place numbers
- Task: 002 - Add two-place numbers
- Task: 003 - Subtract two-place numbers
- Task: 004 - Use basic msrg instruments, i.e., rulers, scales
- Task: 005 - Multiply two-place numbers
- Task: 006 - Divide two-place numbers
- Task: 007 - Add common fractions

Duty: B - PHYSICAL DEMANDS/WORKING ENVIRONMENT

- Task: 001 - Lift 10 lbs max & occasional lifting &/or carrying
- Task: 002 - Extend hands & arms in any direction (reaching
- Task: 003 - Seize, hold, grasp, turn or otherwise work w/ hand

Duty: C - APTITUDES

- Task: 001 - perceive pertinent detail in objects in pictorial or
- Task: 002 - Make visual comparisons & discriminations & see
- Task: 003 - Move fingers & manipulate small objects w/ fingers

Duty: D - TEMPERAMENT

- Task: 001 - Deal w/ people beyond giving &
- Task: 002 - Perform repetitive or continuously same work according

Duty: E - VOCATIONAL

- Task: 001 - Demo knowledge of basic safety concepts

FIGURE 2

Missouri VAMS Training Station

VOCATIONAL ADMINISTRATIVE MANAGEMENT SYSTEM STUDENT HISTORY PROFILE

EVALUATION DATES: N/A TO N/A

STUDENT NAME : DOE, JOHN
STUDENT ID : 12345
GRADE : 10
PROGRAM AREA: SECRETARIAL/CLERICAL SCI

EVALUATION DESCRIPTION: NOT MASTERED

CIP	DUTY TASK	DESCRIPTION
070600	A 005	Multiply two-place numbers
070600	A 006	Divide two-place numbers

EVALUATION DESCRIPTION: REQUIRES SUPERVISION

CIP	DUTY TASK	DESCRIPTION
070600	A 002	Add two-place numbers
070600	A 003	Subtract two-place numbers
070600	A 007	Add common fractions
070600	C 001	Perceive pertinent detail in objects in pictorial or graphic
070600	C 002	Make visual comparisons & discriminations & see slight
070600	D 002	Perform repetitive or continuously same work according to

EVALUATION DESCRIPTION: TESTED MASTERY

CIP	DUTY TASK	DESCRIPTION
070600	A 001	Count two-place numbers
070600	A 004	Use basic msrg instruments , i.e., rulers, scales

EVALUATION DESCRIPTION: OBSERVED MASTERY

CIP	DUTY TASK	DESCRIPTION
070600	B 001	Lift 10 lbs max & occasional lifting &/or carrying small
070600	B 002	Extend hands & arms in any direction (reaching
070600	B 003	Seize, hold, grasp, turn or otherwise work w/ hand or hands
070600	C 003	Move fingers & manipulate small objects w/ fingers, rapidly

EVALUATION DESCRIPTION: NO EXPOSURE

CIP	DUTY TASK	DESCRIPTION
070600	D 001	Deal w/ people beyond giving &
070600	E 001	Demo knowledge of basic safety concepts

How to Use this Manual

This manual is divided into the following occupational cluster areas:

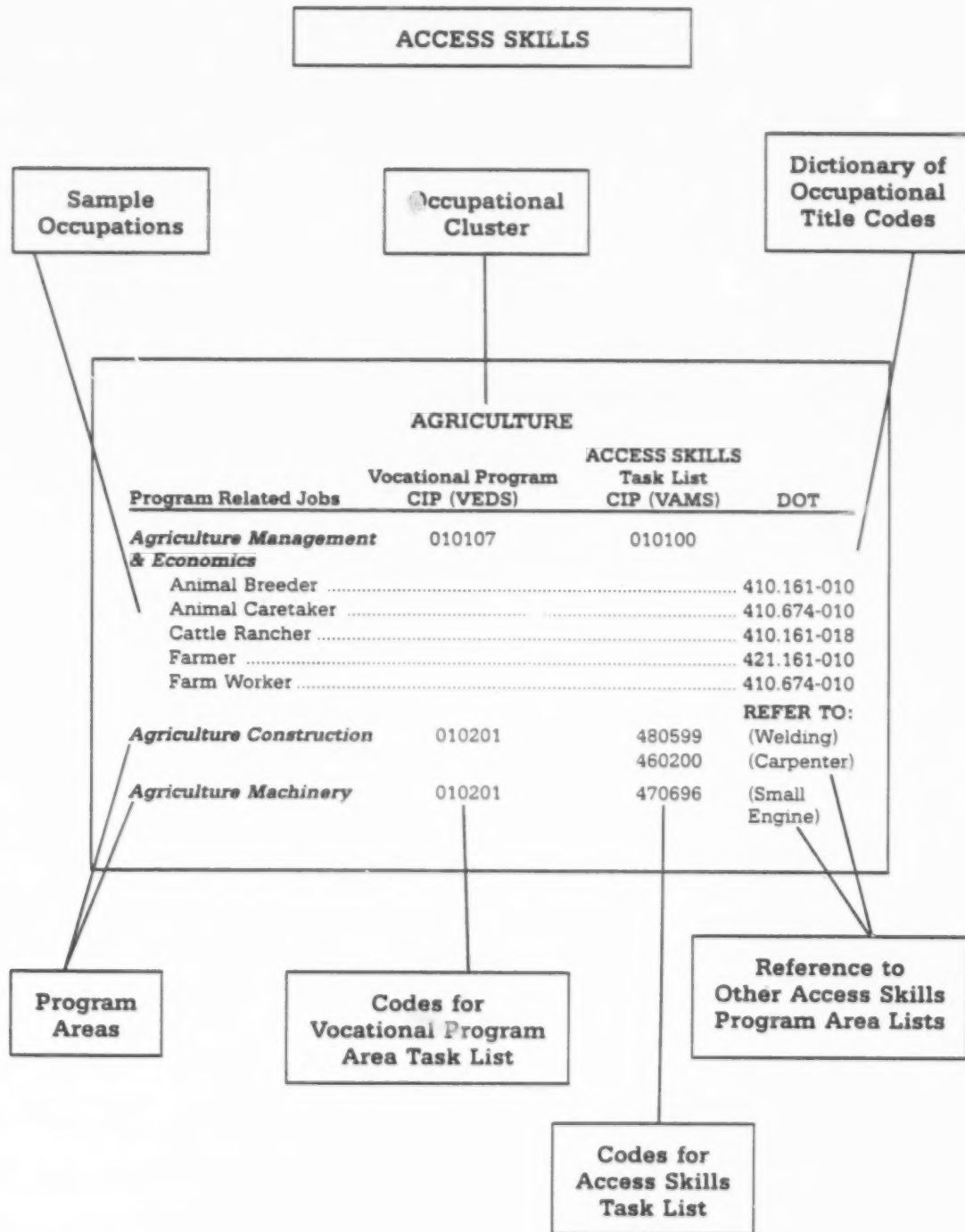
- Agriculture
- Business and Office
- Marketing and Cooperative Education
- Health Occupations
- Occupational Home Economics
- Trade and Technical
- Employability and Study Skills

The first page(s) of each section contains the following information:

- A list of program areas by CIP (Classification of Instructional Programs) code. Some program areas do not have a list of ACCESS SKILLS, but are referred to another list (i.e, Agriculture Construction is referred to the Welding and Carpentry lists).
- Sample occupations from program areas by DOT (Dictionary of Occupational Titles) code.

See Figure 3 for further clarification.

FIGURE 3



The ACCESS SKILLS are identified by vocational program area. Not every program has been included, as Missouri is in the process of developing and updating task lists for some areas. The ACCESS SKILLS are divided into five areas:

1. Math Skills

These skills are broken down into areas which are easy to assess. These areas include addition, subtraction, multiplication, division, measurement, fractions, decimals, percentage, discount, interest, and calculating surface areas, weights, and measures.

2. Physical Demands/Working Environment

Physical demands refer to both the physical requirements of the job and the physical capacities a worker must have to perform the job. The working environment refers to the physical surroundings of a worker in a particular job.

3. Aptitudes

These refer to the abilities most important on the job. In terms of entering vocational training, basic aptitudes needed are given on the ACCESS SKILLS list.

4. Temperament

Temperaments are the specific adaptability requirements made on a worker by specific jobs. How a worker adapts to such factors as performing repetitious tasks, working alone, or attaining specific tolerances while working are important characteristics for success on particular jobs. For example, in drafting the skill of exact measurement is essential.

5. Vocational Skills

Most of the program areas have only a few specific vocational skills listed. For every area, safety consciousness is necessary. Some areas also include recognition and/or use of basic hand tools as desirable skills for students to have prior to entry in some programs.

Assessing ACCESS SKILLS

The ACCESS SKILLS for any particular vocational program area can be assessed either formally or informally. VAMS can provide a printout of the skills for each program area, with a space to indicate whether the student has "Observed Mastery", "Tested Mastery", "Requires Supervision", "Not Mastered", or "No Exposure" to the skills. Figure 4, a sample of this form, is included on the following page for your review.

FIGURE 4

CUSTOM SEWING

Student name/ID: _____

TASK MASTERY CHECKLIST (4, 3, 2, 1, N)

Class: _____

Instructor: _____

Program: _____

Circle proper mastery code: 4 = OBSERVED MASTERY 3 = TESTED MASTERY 2 = REQUIRES SUPERVISION
1 = NOT MASTERED N (or blank) = NO EXPOSURE

# TASK DESCRIPTION	TASK ID#	MASTERY CODE	MASTERY DATE	RETRY CODE/ DATE
1) Count two-place numbers	200399A001	4 3 2 1 N	_____	_____
2) Add two-place numbers	200399A002	4 3 2 1 N	_____	_____
3) Subtract two-place numbers	200399A003	4 3 2 1 N	_____	_____
4) Perform standard units of msrmt., i.e., cup, pint, quart, inch, foot, yard, ounce, pound	200399A004	4 3 2 1 N	_____	_____
5) Use basic msrg instruments, i.e., rulers, scales	200399A005	4 3 2 1 N	_____	_____
6) Lift 20 lbs maximum w/ frequent lifting &/or carrying objects up to 10 lbs (light work)	200399B001	4 3 2 1 N	_____	_____
7) Extend hands & arms in any direction (reaching)	200399B002	4 3 2 1 N	_____	_____
8) Seize, hold, grasp, turn, or otherwise work w/ hand or hands (reaching)	200399B003	4 3 2 1 N	_____	_____
9) Pick, pinch or otherwise work w/ fingers (fingering)	200399B004	4 3 2 1 N	_____	_____
10) Perceive size, shape, temp or texture of objects & mtls w/ fingertips (feeling)	200399B005	4 3 2 1 N	_____	_____
11) Ability to work inside	200399B006	4 3 2 1 N	_____	_____
12) Perceive pertinent detail in objects in pictorial or graphic material (P-form perception)	200399C001	4 3 2 1 N	_____	_____
13) Make visual comparisons & discriminations & see slight diff (P-form perception)	200399C002	4 3 2 1 N	_____	_____
14) Move fingers & manipulate small objects w/ fingers rapidly or accurately (F-finger dexterity)	200399C003	4 3 2 1 N	_____	_____
15) Move hands easily & skillfully (M-manual dexterity)	200399C004	4 3 2 1 N	_____	_____
16) Work w/ hands in placing & turning motions (M-manual dexter)	200399C005	4 3 2 1 N	_____	_____
17) Perform repetitive or continuously same work, according to set procs, sequences, or pace	200399D001	4 3 2 1 N	_____	_____
18) Adapt to situations requiring precise attainment of set limits, tolerances, or standards	200399D002	4 3 2 1 N	_____	_____
19) Demo knowledge of basic safety concepts	200399E001	4 3 2 1 N	_____	_____

Math Skills The math skills can easily be assessed by the student's math teacher. In addition, special education students are usually given achievement tests and math levels can be found in their files. If a student has had no math testing and is not currently enrolled in math, a simple math test could be designed by a teacher to determine the skill mastery level of the student.

Physical Demands/Working Environment These skills can also be informally assessed, perhaps with help from other teachers (industrial arts, home economics, physical education, etc.). A teacher can have the student lift and carry objects of various weights, and observe the student's ability to sit or stand for different time periods. Asking the student about preferences for various work environments is one method of determining his or her choice. However, if a student states he or she wants an indoor, quiet, clean type of job, yet is constantly moving around and getting dirty, a more formalized (Level II or Level III) assessment may be indicated; perhaps an interest test, a job shadow in the community, or a visit to several programs in the vocational school.

Aptitudes Determining aptitudes seems to be the most difficult area of informal assessment. On the ACCESS SKILLS list, each aptitude is followed by a letter and name [i.e., (P - form perception)]. These letters correspond to the aptitudes tested on the GATB (General Aptitude Test Battery) for easy reference when reviewing a student's GATB score. The GATB was chosen as it is used in many schools throughout the state of Missouri. However, scores can be obtained for the majority of the aptitudes from most standardized aptitude tests. For more information regarding test instruments, the *Career Assessment Instrument Resource Guide* is available through the Instructional Materials Laboratory.

When informally assessing aptitudes, it is a good idea to obtain input from parents and other teachers as well as the student. Industrial Arts, Home Economics, Physical Education, and Art teachers would have some observations of finger and manual dexterity, form and spatial perception, and coordination skills. Business Education teachers could speak to clerical aptitudes and attention to detail. A teacher or counselor has many resources to informally assess aptitudes, and, at the same time, to receive input from other teachers regarding not only the student's ability, but his or her behaviors.

Temperaments The ACCESS SKILLS in this area relate to a student's adaptability in performing different jobs. If a student wants to be a file clerk, for example, he or she must be able to perform repetitive work as well as maintain high quality (working within set tolerances). However, if a student's goal is to become an administrative secretary, then an ability to adapt to a variety of tasks is important. Temperaments are usually assessed informally, by teacher observation of student's work (consistent high quality vs. inconsistent vs. low quality) and behavior towards assigned tasks. Again, documentation of these temperaments by other teachers may help validate one teacher's observations.

Summary

ACCESS SKILLS have been standardized for all vocational program areas to help educators involved with special needs students to better assess the skills needed for an occupational area. This assessment leads to appropriate vocational program placement. The skills are divided into five areas, which are the areas used in the *Dictionary of Occupational Titles*. For record keeping purposes, the CIP and DOT codes are also included. Sample occupations are included to indicate to educators, parents and students the types of jobs available in the occupational cluster. For further information on assessing these skills, *Assessment: A Key to Appropriate Program Placement* is available through the Instructional Materials Laboratory.

RESOURCES

Flanagan, M., Boyer-Stephens, A., Maxam, S., Hughey, J., & Alff, M. (1987). *Career Assessment Instrument Resource Guide*.

Maxam, S., Boyer-Stephens, A., & Alff, M. (1986). *Assessment: A Key to Appropriate Program Placement*.

Missouri Department of Elementary and Secondary Education. (1984, July). *VIMS: Excellence through Instructional Management*.

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AGRICULTURE

Program/Related Jobs	Vocational Program CIP (VEDS)	ACCESS SKILLS Task List CIP (VAMS)	DOT
Agribusiness	010501	010500	
Sales Representative, Livestock			260.257-010
Sales Representative, Herbicide Service			251.352-026
Sales Representative, Farm & Garden Equipment & Supplies.....			272.357-014
Agriculture Management & Economics	010107	010100	
Animal Breeder.....			410.161-010
Animal Caretaker.....			410.674-010
Cattle Rancher			410.161-018
Farmer			421.161-010
Farm Worker			410.674-010
Horticulture	010601	010600	
Florist			142.081-010
Horticultural Agent			906.127-010
Horticultural Speciality Grower, Field			405.161-014
Horticultural Speciality Grower, Inside			405.161-018
Horticultural Worker I.....			405.684-014
Nursery Laborer			405.687-014
Manager, Nursery			180.167-042
REFER TO:			
Agriculture Construction	010201	480599	(Welding)
		460200	(Carpenter)
Agriculture Machinery	010201	470696	(Small Engine)
Agriculture Power I	010201	470696	(Small Engine)
Agriculture Power II	010201	470697	(Diesel Mechanic)
Landscaping	010601	010600	(Horticulture)

AGRIBUSINESS

Sample Occupational Areas

Sales Representative, Farm & Garden Equipment & Supplies

Sales Representative, Herbicide Service

Sales Representative, Livestock

Math Skills

Count two-place numbers

Add two-place numbers

Subtract two-place numbers

Perform standard units of measurement,
i.e., cup, pint, quart, inch, foot, yard,
ounce, pound

Use basic measuring instruments, i.e.,
rulers, scales

Multiply two-place numbers

Divide two-place numbers

Add common fractions

Subtract common fractions

Multiply common fractions

Divide common fractions

Add two-place decimals

Subtract two-place decimals

Multiply two-place decimals

Divide two-place decimals

Add discount, interest and percentage

Subtract discount, interest and percentage

Multiply discount, interest and percentage

Divide discount, interest and percentage

Add surface areas, weights and measures

Subtract surface areas, weights and
measures

Multiply surface areas, weights and
measures

Divide surface areas, weights and
measures

Physical Demands/Working Environment

Lift 20 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 10 lbs.
(light work)

Extend the hands and arms in any direction (reaching)

Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)

Pick, pinch, or otherwise work with the fingers (fingering)

Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)

Ability to work inside

Aptitudes - Indicates an ability to:

coordinate eyes and hands or fingers rapidly and accurately (K-motor coordination)

make a movement response accurately and swiftly (K-motor coordination)

move the fingers and manipulate small objects with the fingers, rapidly or accurately
(F-finger dexterity)

move the hands easily and skillfully (M-manual dexterity)

work with the hands in placing and turning motions (M-manual dexterity)

Temperament - Indicates an ability to adapt to:

influence people in their opinions, attitudes, or judgments about ideas of things

making generalizations, evaluations, or decisions based on sensory or judgmental criteria
dealing with people beyond giving and receiving instructions

Vocational

Demonstrate knowledge of basic safety concepts

AGRICULTURE MANAGEMENT AND ECONOMICS

Sample Occupational Areas

Animal Breeder	Farmer
Animal Caretaker	Farm Worker
Cattle Rancher	General Manager, Farm

Math Skills

Count two-place numbers
Add two-place numbers
Subtract two-place numbers
Perform standard units of measurement,
i.e., cup, pint, quart, inch, foot, yard,
ounce, pound
Use basic measuring instruments, i.e.,
rulers, scales
Multiply two-place numbers
Divide two-place numbers
Add common fractions
Subtract common fractions
Multiply common fractions
Divide common fractions
Add two-place decimals

Subtract two-place decimals
Multiply two-place decimals
Divide two-place decimals
Add discount, interest and percentage
Subtract discount, interest and percentage
Multiply discount, interest and percentage
Divide discount, interest and percentage
Add surface areas, weights and measures
Subtract surface areas, weights and
measures
Multiply surface areas, weights and
measures
Divide surface areas, weights and
measures

Physical Demands/Working Environment

Lift 100 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 50 lbs.
(heavy work)
Bend body downward and forward by bending the spine at the waist (stooping)
Bend legs at the knees to come to rest on the knee or knees (kneeling)
Bend body downward and forward by bending the legs and spine (crouching)
Move about on the hands and knees or hands and feet (crawling)
Extend the hands and arms in any direction (reaching)
Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)
Pick, pinch, or otherwise work with the fingers (fingering)
Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)
Ability to work both inside and outside
Ability to work in hazardous situations, i.e., risk of bodily injury
Ability to work in hazardous conditions, i.e., fumes, odors, toxic conditions, dust and poor
ventilation

Aptitudes - Indicates an ability to:

coordinate eyes and hands or fingers rapidly and accurately (K-motor coordination)
make a movement response accurately and swiftly (K-motor coordination)
move the fingers and manipulate small objects with the fingers, rapidly or accurately
(F-finger dexterity)
move the hands easily and skillfully (M-manual dexterity)
work with the hands in placing and turning motions (M-manual dexterity)

Temperament - Indicates an ability to adapt to:

performing a variety of duties, often changing from one task to another of a different nature
without loss of efficiency or composure

Vocational

Identify basic hand tools and equipment
Use basic hand tools and equipment
Demonstrate knowledge of basic safety concepts

HORTICULTURE

Sample Occupational Areas

Florist	Horticulture Worker I
Manager, Nursery	Horticulture Worker II
Nursery Laborer	

Math Skills

Count two-place numbers	Divide two-place numbers
Add two-place numbers	Add common fractions
Subtract two-place numbers	Subtract common fractions
Perform standard units of measurement, i.e., cup, pint, quart, inch, foot, yard, ounce, pound	Multiply common fractions
Use basic measuring instruments, i.e., rulers, scales	Divide common fractions
Multiply two-place numbers	Add two-place decimals
	Subtract two-place decimals
	Multiply two-place decimals
	Divide two-place decimals

Physical Demands/Working Environment

Lift 100 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 50 lbs. (heavy work)

Ascend or descend, i.e., ladders, stairs, scaffolding, using the feet and legs and/or hands and arms (climbing)

Maintain body equilibrium to prevent falling when walking, standing, crouching or running (balancing)

Bend body downward and forward by bending the spine at the waist (stooping)

Bend legs at the knees to come to rest on the knee or knees (kneeling)

Bend body downward and forward by bending the legs and spine (crouching)

Move about on the hands and knees or hands and feet (crawling)

Extend the hands and arms in any direction (reaching)

Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)

Pick, pinch, or otherwise work with the fingers (fingering)

Perceive size, shape, temperature or texture of objects and materials by using fingertips (feeling)

Ability to work in both inside and outside

Ability to work in wet and humid conditions

Ability to work in hazardous conditions, i.e., fumes, odors, toxic conditions, dust and poor ventilation

Aptitudes - Indicates an ability to:

think visually of geometric forms (S-spatial)

comprehend the two dimensional representation of three-dimensional objects (S-spatial)

recognize the relationship resulting from the movements of objects in space (S-spatial)

perceive pertinent detail in objects in pictorial or graphic material (P-form perception)

make visual comparisons and discriminations and see slight differences (P-form perception)

move the hands easily and skillfully (M-manual dexterity)

work with the hands in placing and turning motions (M-manual dexterity)

match or discriminate between colors

identify a particular color or color combination

perceive contrasting color combinations

Temperament - Indicates an ability to adapt to:

dealing with people beyond giving and receiving instructions

performing repetitive work, or performing continuously the same work, according to set procedures, sequences, or pace

Vocational

Identify basic tools and equipment

Use basic tools and equipment

Demonstrate knowledge of basic safety concepts

BUSINESS & OFFICE

Program/Related Jobs	Vocational Program CIP (VEDS)	ACCESS SKILLS Task List CIP (VAMS)	DOT
<i>Bookkeeping/Accounting/Payroll</i>	070101	070100	
Audit Clerk			210.382-010
Bookkeeper I			210.382-014
Bookkeeping Machine Operator			210.382-026
General Ledger Bookkeeper			210.382-046
Payroll Clerk			215.482-010
<i>Data Entry Operator</i>	070303	070399	
Computer Operator			213.362-010
Computer-Peripheral-Equipment Operator			213.382-010
Terminal Operator			203.582-054
Terminal System Operator			203.362-018
Key punch Operator			203.582-030
<i>Secretarial/Office Technology</i>	070601	070600	
Clerk, General			209.562-010
Clerk Typist			203.362-010
File Clerk II			206.367-014
Mail Clerk			209.587-026
Medical Record Clerk			245.362-010
Receptionist			237.367-038
Secretary			201.362-030

BOOKKEEPING/ACCOUNTING/PAYROLL

Sample Occupational Areas

Audit Clerk	Payroll Clerk
General Ledger Bookkeeper	Bookkeeper I

Math Skills

Count two-place numbers
Add two-place numbers
Subtract two-place numbers
Use basic measuring instruments, i.e.,
rulers, scales
Multiply two-place numbers
Divide two-place numbers
Add common fractions
Subtract common fractions
Multiply common fractions

Divide common fractions
Add two-place decimals
Subtract two-place decimals
Multiply two-place decimals
Divide two-place decimals
Add discount, interest and percentage
Subtract discount, interest and percentage
Multiply discount, interest and percentage
Divide discount, interest and percentage

Physical Demands/Working Environment

Lift 10 lbs. maximum and occasionally lifting and/or carrying small articles, i.e., tools, ledgers
(sedentary work)
Extend the hands and arms in any direction (reaching)
Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)
Pick, pinch, or otherwise work with the fingers (fingering)
Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)
Ability to work inside

Aptitudes - Indicates an ability to:

perceive pertinent detail in objects in pictorial or graphic material (P-form perception)
make visual comparisons and discriminations and see slight differences (P-form perception)
move the hands easily and skillfully (M-manual dexterity)
work with the hands in placing and turning motions (M-manual dexterity)

Temperament - Indicates an ability to adapt to:

performing repetitive work, or performing continuously the same work, according to set
procedures, sequences, or pace
situations requiring the precise attainment of set limits, tolerances, or standards

Vocational

Demonstrate knowledge of basic safety concepts

DATA ENTRY OPERATOR

Sample Occupational Areas

Computer Operator	Terminal Operator
Keypunch Operator	Terminal System Operator

Math Skills

Count two-place numbers	Multiply common fractions
Add two-place numbers	Divide common fractions
Subtract two-place numbers	Add two-place decimals
Multiply two-place numbers	Subtract two-place decimals
Divide two-place numbers	Multiply two-place decimals
Add common fractions	Divide two-place decimals
Subtract common fractions	

Physical Demands/Working Environment

Lift 10 lbs. maximum and occasionally lifting and/or carrying small articles, i.e., tools, ledgers (sedentary work)

Extend the hands and arms in any direction (reaching)

Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)

Pick, pinch, or otherwise work with the fingers (fingering)

Perceive size, shape, temperature or texture of objects and materials by using fingertips (feeling)

Ability to work inside

Aptitudes - Indicates an ability to:

think visually of geometric forms (S-spatial)

comprehend the two dimensional representation of three-dimensional objects (S-spatial)

recognize the relationship resulting from the movements of objects in space (S-spatial)

perceive pertinent detail in objects in pictorial or graphic material (P-form perception)

make visual comparisons and discriminations and see slight differences (P-form perception)

coordinate eyes and hands or fingers rapidly and accurately (K-motor coordination)

make a movement response accurately and swiftly (K-motor coordination)

move the fingers and manipulate small objects with the fingers, rapidly or accurately (F-finger dexterity)

Temperament - Indicates an ability to adapt to:

performing repetitive work, or performing continuously the same work, according to set procedures, sequences, or pace

situations requiring the precise attainment of set limits, tolerances, or standards

Vocational

Demonstrate knowledge of basic safety concepts

SECRETARIAL/OFFICE TECHNOLOGY

Sample Occupational Areas

Secretary	File Clerk II
Clerk, General	Mail Clerk
Clerk Typist	Receptionist

Math Skills

Count two-place numbers	Subtract common fractions
Add two-place numbers	Multiply common fractions
Subtract two-place numbers	Divide common fractions
Use basic measuring instruments, i.e., rulers, scales	Add two-place decimals
Multiply two-place numbers	Subtract two-place decimals
Divide two-place numbers	Multiply two-place decimals
Add common fractions	Divide two-place decimals

Physical Demands/Working Environment

Lift 10 lbs. maximum and occasionally lifting and/or carrying small articles, i.e., tools, ledgers (sedentary work)

Extend the hands and arms in any direction (reaching)

Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)

Pick, pinch, or otherwise work with the fingers (fingering)

Perceive size, shape, temperature or texture of objects and materials by using fingertips (feeling)

Ability to work inside

Aptitudes - Indicates an ability to:

perceive pertinent detail in objects in pictorial or graphic material (P-form perception)

make visual comparisons and discriminations and see slight differences (P-form perception)

move the fingers and manipulate small objects with the fingers, rapidly or accurately (F-finger dexterity)

move the hands easily and skillfully (M-manual dexterity)

work with the hands in placing and turning motions (M-manual dexterity)

Temperament - Indicates an ability to adapt to:

dealing with people beyond giving and receiving instructions

performing repetitive work, or performing continuously the same work, according to set procedures, sequences, or pace

Vocational

Demonstrate knowledge of basic safety concepts

MARKETING & COOPERATIVE EDUCATION

Program/Related Jobs	Vocational Program CIP (VEDS)	ACCESS SKILLS Task List CIP (VAMS)	DOT
<i>Fundamentals of Marketing</i>	080001	080099	
Cashier, Front Desk (hotel/motel)			211.362-010
Checker			211.462-014
Driver Helper, Sales Route			292.667-010
Sales Clerk			290.477-014
Salesperson, Fashion Accessories.....			261.357-066
Salesperson, General Hardware			279.357-050
Telephone Solicitor			299.357-014

REFER TO:

<i>Cooperative Industrial Education</i>	460000	999999	(Employability Skills)
		999998	(Study Skills)

FUNDAMENTALS OF MARKETING

Sample Occupational Areas

Salesperson, Fashion Accessories	Driver Helper, Sales Route
Salesperson, General Hardware	Telephone Solicitor
Checker	Sales Clerk
Cashier, Front Desk	

Math Skills

Count two-place numbers
Add two-place numbers
Subtract two-place numbers
Use basic measuring instruments, i.e.,
rulers, scales
Multiply two-place numbers
Divide two-place numbers
Add common fractions
Subtract common fractions
Multiply common fractions

Divide common fractions
Add two-place decimals
Subtract two-place decimals
Multiply two-place decimals
Divide two-place decimals
Add discount, interest and percentage
Subtract discount, interest and percentage
Multiply discount, interest and percentage
Divide discount, interest and percentage

Physical Demands/Working Environment

Lift 20 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 10 lbs.
(light work)
Extend the hands and arms in any direction (reaching)
Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)
Pick, pinch, or otherwise work with the fingers (fingering)
Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)
Ability to work inside

Aptitudes - Indicates an ability to:

think visually of geometric forms (S-spatial)
comprehend the two dimensional representation of three-dimensional objects (S-spatial)
recognize the relationship resulting from the movements of objects in space (S-spatial)
perceive pertinent detail in objects in pictorial or graphic material (P-form perception)
make visual comparisons and discriminations and see slight differences (P-form perception)
coordinate eyes and hands or fingers rapidly and accurately (K-motor coordination)
make a movement response accurately and swiftly (K-motor coordination)
move the fingers and manipulate small objects with the fingers, rapidly or accurately
(F-finger dexterity)
move the hands easily and skillfully (M-manual dexterity)
work with the hands in placing and turning motions (M-manual dexterity)
match or discriminate between colors
identify a particular color or color combination
perceive contrasting color combinations

Temperament - Indicates an ability to adapt to:

influence people in their opinions, attitudes, or judgments about ideas of things
dealing with people beyond giving and receiving instructions

Vocational

Demonstrate knowledge of basic safety concepts

HEALTH OCCUPATIONS

Program/Related Jobs	Vocational Program	ACCESS SKILLS Task List	DOT
	CIP (VEDS)	CIP (VAMS)	
<i>Health Occupations</i>	170699	170600	
Blood Bank Technician.....			078.381-014
Central Supply Worker			381.687-010
Home Attendant			354.377-014
Nurse Aide.....			355.674-014
Orderly			355.674-018
Physical Therapy Assistant			076.244-010

HEALTH OCCUPATIONS

Sample Occupational Areas

Blood Bank Technician	Nurse Aide
Central Supply Worker	Orderly
Home Attendant	

Math Skills

Count two-place numbers	Divide two-place numbers
Add two-place numbers	Add common fractions
Subtract two-place numbers	Subtract common fractions
Perform standard units of measurement, i.e., cup, pint, quart, inch, foot, yard, ounce, pound	Multiply common fractions
Use basic measuring instruments, i.e., rulers, scales	Divide common fractions
Multiply two-place numbers	Add two-place decimals
	Subtract two-place decimals
	Multiply two-place decimals
	Divide two-place decimals

Physical Demands/Working Environment

Lift 50 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 25 lbs.
(Medium work)

Bend body downward and forward by bending the spine at the waist (stooping)

Bend legs at the knees to come to rest on the knee or knees (kneeling)

Bend body downward and forward by bending the legs and spine (crouching)

Move about on the hands and knees or hands and feet (crawling)

Extend the hands and arms in any direction (reaching)

Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)

Pick, pinch, or otherwise work with the fingers (fingering)

Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)

Ability to work inside

Ability to work in hazardous situations, i.e., risk of bodily injury

Aptitudes - Indicates an ability to:

coordinate eyes and hands or fingers rapidly and accurately (K-motor coordination)

make a movement response accurately and swiftly (K-motor coordination)

move the hands easily and skillfully (M-manual dexterity)

work with the hands in placing and turning motions (M-manual dexterity)

Temperament - Indicates an ability to adapt to:

dealing with people beyond giving and receiving instructions

performing a variety of duties, often changing from one task to another of a different nature
without loss of efficiency or composure

performing under stress when confronted with emergency critical, unusual, or dangerous
situations, or situations in which working speed and sustained attention are make-or-
break aspects of the job

Vocational

Demonstrate knowledge of basic safety concepts

OCCUPATIONAL HOME ECONOMICS

Program/Related Jobs	Vocational Program CIP (VEDS)	ACCESS SKILLS Task List CIP (VAMS)	DOT
<i>Child Care Worker</i>	200202	200200	
Attendant, Children's Institution			359.677-010
Child Care Attendant, School			355.674-010
Child Day Care Center Worker			359.677-018
Nursery School Attendant.....			359.677-018
Playroom Attendant			359.677-026
Teacher Aide I			099.327-010
<i>Custom Sewing</i>	200304	200399	
Alteration Tailor			785.261-010
Garment Fitter			785.361-014
Hemmer			787.682-026
Pleating Machine Operator.....			583.685-082
Pressor, All-Around			363.682-014
Sewing Machine Operator.....			787.682-046
<i>Food Service Worker</i>	200406	200400	
Baker Helper			313.684-010
Cook Helper.....			317.687-010
Cook Helper, Pastry.....			313.687-010
Deli Cutter-Slicer			316.684-014
Food Assembler, Kitchen.....			319.484-010
Food Service Worker, Hospital			355.677-010
Kitchen Helper			318.687-010

CHILD CARE WORKER

Sample Occupational Areas

Attendant, Children's Institution	Nursery School Attendant
Child Day Care Center Worker	Playroom Attendant
Child Care Attendant, School	Teacher Aid I

Math Skills

Count two-place numbers	Divide two-place numbers
Add two-place numbers	Add common fractions
Subtract two-place numbers	Subtract common fractions
Perform standard units of measurement, i.e., cup, pint, quart, inch, foot, yard, ounce, pound	Multiply common fractions
Use basic measuring instruments, i.e., rulers, scales	Divide common fractions
Multiply two-place numbers	Add two-place decimals
	Subtract two-place decimals
	Multiply two-place decimals
	Divide two-place decimals

Physical Demands/Working Environment

Lift 50 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 25 lbs.
(Medium work)

Bend body downward and forward by bending the spine at the waist (stooping)

Bend legs at the knees to come to rest on the knee or knees (kneeling)

Bend body downward and forward by bending the legs and spine (crouching)

Move about on the hands and knees or hands and feet (crawling)

Extend the hands and arms in any direction (reaching)

Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)

Pick, pinch, or otherwise work with the fingers (fingering)

Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)

Ability to work inside

Ability to work in extreme noise, constant or intermittent, causing marked distraction or
possibly injury to hearing

Ability to work in extreme vibration, i.e., strain on body or extremities from repeated motion
or shock

Aptitudes - Indicates an ability to:

think visually of geometric forms (S-spatial)

comprehend the two dimensional representation of three-dimensional objects (S-spatial)

recognize the relationship resulting from the movements of objects in space (S-spatial)

move the fingers and manipulate small objects with the fingers, rapidly or accurately
(F-finger dexterity)

move the hands easily and skillfully (M-manual dexterity)

work with the hands in placing and turning motions (M-manual dexterity)

Temperament - Indicates an ability to:

dealing with people beyond giving and receiving instructions

performing a variety of duties, often changing from one task to another of a different nature
without loss of efficiency or composure

Vocational

Demonstrate knowledge of basic safety concepts

CUSTOM SEWING

Sample Occupational Areas

Alteration Tailor	Presser, All-Round
Garment Fitter	Sewing Machine Operator
Hemmer	

Math Skills

Count two-place numbers	Use basic measuring instruments, i.e.,
Add two-place numbers	rulers, scales
Subtract two-place numbers	
Perform standard units of measurement,	
i.e., cup, pint, quart, inch, foot, yard,	
ounce, pound	

Physical Demands/Working Environment

Lift 20 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 10 lbs.
(light work)

Extend the hands and arms in any direction (reaching)

Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)

Pick, pinch, or otherwise work with the fingers (fingering)

Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)

Ability to work inside

Aptitudes - Indicates an ability to:

perceive pertinent detail in objects in pictorial or graphic material (P-form perception)

make visual comparisons and discriminations and see slight differences (P-form perception)

move the fingers and manipulate small objects with the fingers, rapidly or accurately
(F-finger dexterity)

move the hands easily and skillfully (M-manual dexterity)

work with the hands in placing and turning motions (M-manual dexterity)

Temperament - Indicates an ability to adapt to:

performing repetitive work, or performing continuously the same work, according to set
procedures, sequences, or pace

situations requiring the precise attainment of set limits, tolerances, or standards

Vocational

Demonstrate knowledge of basic safety concepts

FOOD SERVICE WORKER

Sample Occupational Areas

Baker Helper	Food Assembler, Kitchen
Cook Helper	Food Service Worker, Hospital
Deli Cutter/Slicer	Kitchen Helper

Math Skills

Count two-place numbers	Multiply two-place numbers
Add two-place numbers	Divide two-place numbers
Subtract two-place numbers	Add common fractions
Perform standard units of measurement, i.e., cup, pint, quart, inch, foot, yard, ounce, pound	Subtract common fractions
Use basic measuring instruments, i.e., rulers, scales	Multiply common fractions
	Divide common fractions

Physical Demands/Working Environment

Lift 50 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 25 lbs.
(Medium work)

Extend the hands and arms in any direction (reaching)

Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)

Pick, pinch, or otherwise work with the fingers (fingering)

Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)

Ability to work inside

Aptitudes - Indicates an ability to:

move the hands easily and skillfully (M-manual dexterity)

work with the hands in placing and turning motions (M-manual dexterity)

Temperament - Indicates an ability to adapt to:

performing repetitive work, or performing continuously the same work, according to set
procedures, sequences, or pace

situations requiring the precise attainment of set limits, tolerances, or standards

Vocational

Demonstrate knowledge of basic safety concepts

Identify common kitchen utensils and equipment

TRADE & TECHNICAL

Program/Related Jobs	Vocational Program CIP (VEDS)	ACCESS SKILLS Task List CIP (VAMS)	DOT
Autobody Repair	470603	470699	
Automobile Body Customizer			807.361-010
Automobile Body Repairer			807.381-010
Automobile Body Repairer-Helper			807.687-010
Automobile Repair-Service Estimator			620.261-018
Automobile Seat Cover Installer			915.687-010
Painter Helper, Automotive			620.584-010
Automobile Mechanics	470604	470698	
Automobile Mechanic			620.261-010
Automobile Mechanic Apprentice			620.261-012
Automobile Service Station Attendant			915.467-010
Brake Repairer			620.281-026
Front End Mechanic			620.281-038
Ignition and Carburetor Mechanic			825.281-022
Muffler Installer			807.664-010
Tire Repairer			915.684-010
Tune-Up Mechanic			620.281-066
Building Maintenance/Custodial	460401	460400	
Housekeeper			321.137-010
Janitor			382.664-010
Maintenance Mechanic Helper			638.684-018
Painter Helper, Spray			741.687-014
Carpentry	460201	460200	
Bricklayer Helper			861.687-010
Cabinetmaker, Apprentice			660.280-014
Construction Worker			869.687-026
Electrician Helper			829.684-022
Plumber Helper			869.664-014
Roofer Helper			869.687-026
Roof Framers			869.684-010
Yard Laborer			922.687-102

TRADE & TECHNICAL
(continued)

Program/Related Jobs	Vocational Program CIP (VEDS)	ACCESS SKILLS Task List CIP (VAMS)	DOT
Commercial Art	480203	480298	
Artist, Color Separation (print & pub.)			970.281-026
Artist, Woodblock (print & pub.)			979.281-014
Photographer Helper			976.667-010
Illustrator			141.061-022
Cartoonist (print & pub.)			141.061-010
Sketch Maker, Photoengraving (print & pub.)			970.281-026
Displayer, Merchandise			298.081-010
Fashion Artist			141.061-014
Diesel Mechanics	470605	470697	
Diesel Mechanic Apprentice			625.281-014
Diesel Mechanic Helper			625.684-010
Engine Repairer			625.281-018
Maintenance Mechanic Helper			638.684-018
Tractor Mechanic Helper			620.684-030
Drafting	480101	480100	
Die Designer Apprentice			007.161-014
Drafter, Apprentice			017.281-014
Drafter, Architectural			001.261-010
Drafter, Assistant			017.281-018
Drafter, Civil			005.281-010
Drafter, Mechanical			007.281-010
Electronics	470101	470100	
Electronics Assembler			726.684-018
Electronics Equipment Mechanic			828.281-010
Electronics Inspector I			726.381-010
Electronics Mechanic			828.281-010
Electronics Mechanic Apprentice			828.281-014
Electronics Tester I			726.281-014
Office Machine Servicer			633.281-018
Office Machine Servicer Apprentice			633.281-022

TRADE & TECHNICAL
(continued)

Program/Related Jobs	Vocational Program CIP (VEDS)	ACCESS SKILLS Task List CIP (VAMS)	DOT
Heating, Air Conditioning & Refrigeration	470201	470200	
Air-Conditioning Installer-Servicer (window unit)			637.261-010
Furnace Installer Helper			862.684-022
Furnace Installer-Repairer Helper			869.687-030
Refrigeration Mechanic			637.261-026
Sheet-Metal Worker			804.281-010
Sheet-Metal Worker Apprentice			804.281-014
Machinist	480503	480598	
Machinist Apprentice			600.280-026
Machinist Apprentice, Outside			623.281-022
Machinist, Bench			600.281-022
Machinist, General			600.280-022
Machinist Helper, Marine			623.687-010
Offset Lithography/ Printing Occupations	480201	480299	
Book Repairer			977.684-010
Collator Operator			208.685-010
Compositor Apprentice			973.381-014
Duplicating Machine Operator			207.682-014
Microfilm Mounter			208.685-022
Offset Press Operator Apprentice			651.482-014
Photostat Operator Helper			979.687-014
Print Shop Helper			979.687-026
Photographer, Lithographic			972.382-014
Small Engine Repair	470606	470696	
Engine Repairer, Production			625.381-010
Gas Engine Repairer			625.281-026
Power Saw Mechanics			625.281-030
Small Engine Mechanics			625.281-034
Welding	480508	480599	
Gas Welding Equipment Mechanic			626.381-014
Welder Helper			819.687-014
Weld Inspector I			819.281-018
Welding Machine Operator, Arc			819.666-010
Welding Machine Operator, Gas			819.666-010
Welding Technician			011.261-014

AUTOBODY REPAIR

Sample Occupational Areas

Autobody Customizer	Automobile Seat Cover Repairer
Autobody Repairer	Painter Helper, Automotive
Autobody Repairer Helper	

Math Skills

Count two-place numbers	Divide common fractions
Add two-place numbers	Add two-place decimals
Subtract two-place numbers	Subtract two-place decimals
Perform standard units of measurement, i.e., cup, pint, quart, inch, foot, yard, ounce, pound	Multiply two-place decimals
Use basic measuring instruments, i.e., rulers, scales	Divide two-place decimals
Multiply two-place numbers	Add percentage
Divide two-place numbers	Subtract percentage
Add common fractions	Multiply percentage
Subtract common fractions	Divide percentage
Multiply common fractions	Add surface areas
	Subtract surface areas
	Multiply surface areas
	Divide surface areas

Physical Demands/Working Environment

Lift 50 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 25 lbs.
(Medium work)

Bend body downward and forward by bending the spine at the waist (stooping)
Bend legs at the knees to come to rest on the knee or knees (kneeling)
Bend body downward and forward by bending the legs and spine (crouching)
Move about on the hands and knees or hands and feet (crawling)
Extend the hands and arms in any direction (reaching)
Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)
Pick, pinch, or otherwise work with the fingers (fingering)
Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)
Ability to work inside
Ability to work in extreme noise, constant or intermittent, causing marked distraction or
possibly injury to hearing
Ability to work in extreme vibration, i.e., strain on body or extremities from repeated motion
or shock
Ability to work in hazardous conditions, i.e., fumes, odors, toxic conditions, dust and poor
ventilation

Aptitudes - Indicates an ability to:

coordinate eyes and hands or fingers rapidly and accurately (K-motor coordination)
make a movement response accurately and swiftly (K-motor coordination)
move the fingers and manipulate small objects with the fingers, rapidly or accurately
(F-finger dexterity)
move the hands easily and skillfully (M-manual dexterity)
work with the hands in placing and turning motions (M-manual dexterity)
match or discriminate between colors
identify a particular color or color combination
perceive contrasting color combinations

Temperament - Indicates an ability to adapt to:

situations requiring the precise attainment of set limits, tolerances, or standards
performing a variety of duties, often changing from one task to another of a different nature
without loss of efficiency or composure

Vocational

Identify basic hand tools and equipment
Use basic hand tools and equipment
Demonstrate knowledge of basic safety concepts

AUTOMOBILE MECHANICS

Sample Occupational Areas

Tune-up Mechanic	Brake Repairer
Ignition and Carburetor Mechanic	Muffler Installer
Front End Mechanic	

Math Skills

Count two-place numbers	Divide two-place numbers
Add two-place numbers	Add common fractions
Subtract two-place numbers	Subtract common fractions
Perform standard units of measurement, i.e., cup, pint, quart, inch, foot, yard, ounce, pound	Multiply common fractions
Use basic measuring instruments, i.e., rulers, scales	Divide common fractions
Multiply two-place numbers	Add two-place decimals
	Subtract two-place decimals
	Multiply two-place decimals
	Divide two-place decimals

Physical Demands/Working Environment

Lift 50 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 25 lbs.
(Medium work)

Bend body downward and forward by bending the spine at the waist (stooping)

Bend legs at the knees to come to rest on the knee or knees (kneeling)

Bend body downward and forward by bending the legs and spine (crouching)

Move about on the hands and knees or hands and feet (crawling)

Extend the hands and arms in any direction (reaching)

Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)

Pick, pinch, or otherwise work with the fingers (fingering)

Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)

Ability to work inside

Ability to work in extreme noise, constant or intermittent, causing marked distraction or
possible injury to hearing

Ability to work in extreme vibration, i.e., strain on body or extremities from repeated motion
or shock

Ability to work in hazardous conditions, i.e., fumes, odors, toxic conditions, dust and poor
ventilation

Aptitudes - Indicates an ability to:

think visually of geometric forms (S-spatial)

comprehend the two dimensional representation of three-dimensional objects (S-spatial)

recognize the relationship resulting from the movements of objects in space (S-spatial)

perceive pertinent detail in objects in pictorial or graphic material (P-form perception)

make visual comparisons and discriminations and see slight differences (P-form perception)

move the hands easily and skillfully (M-manual dexterity)

work with the hands in placing and turning motions (M-manual dexterity)

Temperament - Indicates an ability to adapt to:

making generalizations, evaluations, or decisions based on measurable or verifiable criteria

situations requiring the precise attainment of set limits, tolerances, or standards

performing a variety of duties, often changing from one task to another of a different nature
without loss of efficiency or composure

Vocational

Identify basic hand tools and equipment

Use basic hand tools and equipment

Demonstrate knowledge of basic safety concepts

BUILDING MAINTENANCE/CUSTODIAL

Sample Occupational Areas

Janitor Maintenance Mechanic Helper
Housekeeping

Math Skills

Count two-place numbers Use basic measuring instruments, i.e.,
Add two-place numbers rulers, scales
Subtract two-place numbers
Perform standard units of measurement,
 i.e., cup, pint, quart, inch, foot, yard,
 ounce, pound

Physical Demands/Working Environment

Lift 50 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 25 lbs.
 (Medium work)
Ascend or descend, i.e., ladders, stairs, scaffolding, using the feet and legs and/or hands and
 arms (climbing)
Maintain body equilibrium to prevent falling when walking, standing, crouching or running
 (balancing)
Bend body downward and forward by bending the spine at the waist (stooping)
Bend legs at the knees to come to rest on the knee or knees (kneeling)
Bend body downward and forward by bending the legs and spine (crouching)
Move about on the hands and knees or hands and feet (crawling)
Extend the hands and arms in any direction (reaching)
Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)
Pick, pinch, or otherwise work with the fingers (fingering)
Perceive size, shape, temperature or texture of objects and materials by using fingertips
 (feeling)
Ability to work inside

Aptitudes - Indicates an ability to:

move the hands easily and skillfully (M-manual dexterity)
work with the hands in placing and turning motions (M-manual dexterity)

Temperament - Indicates an ability to adapt to:

performing repetitive work, or performing continuously the same work, according to set
 procedures, sequences, or pace
performing a variety of duties, often changing from one task to another of a different nature
 without loss of efficiency or composure

Vocational

Identify basic hand tools and equipment
Use basic hand tools and equipment
Demonstrate knowledge of basic safety concepts

CARPENTRY

Sample Occupational Areas

Brick Layer Helper	Electrician Helper
Cabinet Maker, Apprentice	Rough Carpenter
Construction Worker	Roofer

Math Skills

Count two-place numbers	Divide common fractions
Add two-place numbers	Add two-place decimals
Subtract two-place numbers	Subtract two-place decimals
Perform standard units of measurement, i.e., cup, pint, quart, inch, foot, yard, ounce, pound	Multiply two-place decimals
Use basic measuring instruments, i.e., rulers, scales	Divide two-place decimals
Multiply two-place numbers	Add surface areas, weights and measures
Divide two-place numbers	Subtract surface areas, weights and measures
Add common fractions	Multiply surface areas, weights and measures
Subtract common fractions	Divide surface areas, weights and measures
Multiply common fractions	

Physical Demands/Working Environment

Lift 50 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 25 lbs.
(Medium work)

Ascend or descend, i.e., ladders, stairs, scaffolding, using the feet and legs and/or hands and arms (climbing)

Maintain body equilibrium to prevent falling when walking, standing, crouching or running (balancing)

Bend body downward and forward by bending the spine at the waist (stooping)

Bend legs at the knees to come to rest on the knee or knees (kneeling)

Bend body downward and forward by bending the legs and spine (crouching)

Move about on the hands and knees or hands and feet (crawling)

Extend the hands and arms in any direction (reaching)

Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)

Pick, pinch, or otherwise work with the fingers (fingering)

Perceive size, shape, temperature or texture of objects and materials by using fingertips (feeling)

Ability to work both inside and outside

Ability to work in hazardous situations, i.e., risk of bodily injury

Aptitudes - Indicates an ability to:

think visually of geometric forms (S-spatial)

comprehend the two dimensional representation of three-dimensional objects (S-spatial)

recognize the relationship resulting from the movements of objects in space (S-spatial)

perceive pertinent detail in objects in pictorial or graphic material (P-form perception)

make visual comparisons and discriminations and see slight differences (P-form perception)

coordinate eyes and hands or fingers rapidly and accurately (K-motor coordination)

make a movement response accurately and swiftly (K-motor coordination)

move the fingers and manipulate small objects with the fingers, rapidly or accurately (F-finger dexterity)

move the hands easily and skillfully (M-manual dexterity)

work with the hands in placing and turning motions (M-manual dexterity)

Temperament - Indicates an ability to adapt to:

making generalizations, evaluations, or decisions based on measurable or verifiable criteria

situations requiring the precise attainment of set limits, tolerances, or standards

Vocational

Identify basic hand tools and equipment

Use basic hand tools and equipment

Demonstrate knowledge of basic safety concepts

COMMERCIAL ART

Sample Occupational Areas

Artist, Woodblock
Fashion Artist

Illustrator
Photographer Helper

Math Skills

Count two-place numbers
Add two-place numbers
Subtract two-place numbers
Perform standard units of measurement,
i.e., cup, pint, quart, inch, foot, yard,
ounce, pound
Use basic measuring instruments, i.e.,
rulers, scales
Multiply two-place numbers

Divide two-place numbers
Add common fractions
Subtract common fractions
Multiply common fractions
Divide common fractions
Add two-place decimals
Subtract two-place decimals
Multiply two-place decimals
Divide two-place decimals

Physical Demands/Working Environment

Lift 10 lbs. maximum and occasionally lifting and/or carrying small articles, i.e., tools, ledgers
(sedentary work)
Extend the hands and arms in any direction (reaching)
Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)
Pick, pinch, or otherwise work with the fingers (fingering)
Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)
Ability to work inside

Aptitudes - Indicates an ability to:

think visually of geometric forms (S-spatial)
comprehend the two dimensional representation of three-dimensional objects (S-spatial)
recognize the relationship resulting from the movements of objects in space (S-spatial)
perceive pertinent detail in objects in pictorial or graphic material (P-form perception)
make visual comparisons and discriminations and see slight differences (P-form perception)
perceive pertinent detail in verbal or tabular materials (Q-clerical perception)
move the hands easily and skillfully (M-manual dexterity)
work with the hands in placing and turning motions (M-manual dexterity)
match or discriminate between colors
identify a particular color or color combination
perceive contrasting color combinations

Temperament - Indicates an ability to adapt to:

making generalizations, evaluations, or decisions based on sensory or judgmental criteria

Vocational

Demonstrate knowledge of basic safety concepts

DIESEL MECHANICS

Sample Occupational Areas

Diesel Mechanic Apprentice
Diesel Mechanic Helper
Engine Repairer

Maintenance Mechanic Helper
Tractor Mechanic Helper

Math Skills

Count two-place numbers
Add two-place numbers
Subtract two-place numbers
Perform standard units of measurement,
i.e., cup, pint, quart, inch, foot, yard,
ounce, pound
Use basic measuring instruments, i.e.,
rulers, scales
Multiply two-place numbers
Divide two-place numbers
Add common fractions
Subtract common fractions
Multiply common fractions

Divide common fractions
Add two-place decimals
Subtract two-place decimals
Multiply two-place decimals
Divide two-place decimals
Add surface areas, values, weights and
measures
Subtract surface areas, values, weights and
measures
Multiply surface areas, values, weights and
measures
Divide surface areas, values, weights and
measures

Physical Demands/Working Environment

Lift 100 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 50 lbs.
(heavy work)
Bend body downward and forward by bending the spine at the waist (stooping)
Bend legs at the knees to come to rest on the knee or knees (kneeling)
Bend body downward and forward by bending the legs and spine (crouching)
Move about on the hands and knees or hands and feet (crawling)
Extend the hands and arms in any direction (reaching)
Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)
Pick, pinch, or otherwise work with the fingers (fingering)
Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)
Ability to work inside
Ability to work in extreme noise, constant or intermittent, causing marked distraction or
possibly injury to hearing
Ability to work in extreme vibration, i.e., strain on body or extremities from repeated motion
or shock

Aptitudes - Indicates an ability to:

think visually of geometric forms (S-spatial)
comprehend the two dimensional representation of three-dimensional objects (S-spatial)
recognize the relationship resulting from the movements of objects in space (S-spatial)
perceive pertinent detail in objects in pictorial or graphic material (P-form perception)
make visual comparisons and discriminations and see slight differences (P-form perception)
coordinate eyes and hands or fingers rapidly and accurately (K-motor coordination)
make a movement response accurately and swiftly (K-motor coordination)
move the fingers and manipulate small objects with the fingers, rapidly or accurately
(F-finger dexterity)

Temperament - Indicates an ability to:

making generalizations, evaluations, or decisions based on measurable or verifiable criteria
situations requiring the precise attainment of set limits, tolerances, or standards
performing a variety of duties, often changing from one task to another of a different nature
without loss of efficiency or composure

Vocational

Identify basic hand tools and equipment
Use basic hand tools and equipment
Demonstrate knowledge of basic safety concepts

DRAFTING

Sample Occupational Areas

Drafter, Apprentice	Drafter, Architectural
Drafter, Assistant	Drafter, Civil
Die Designer, Apprentice	Drafter, Mechanical

Math Skills

Count two-place numbers
 Add two-place numbers
 Subtract two-place numbers
 Perform standard units of measurement,
 i.e., cup, pint, quart, inch, foot, yard,
 ounce, pound
 Use basic measuring instruments, i.e.,
 rulers, scales
 Multiply two-place numbers
 Divide two-place numbers
 Add common fractions
 Subtract common fractions
 Multiply common fractions
 Divide common fractions
 Add two-place decimals

Subtract two-place decimals
 Multiply two-place decimals
 Divide two-place decimals
 Add percentage
 Subtract percentage
 Multiply percentage
 Divide percentage
 Add surface areas, weights and measures
 Subtract surface areas, weights and
 measures
 Multiply surface areas, weights and
 measures
 Divide surface areas, weights and
 measures

Physical Demands/Working Environment

Lift 10 lbs. maximum and occasionally lifting and/or carrying small articles, i.e., tools, ledgers
 (sedentary work)
 Extend the hands and arms in any direction (reaching)
 Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)
 Pick, pinch, or otherwise work with the fingers (fingering)
 Perceive size, shape, temperature or texture of objects and materials by using fingertips
 (feeling)
 Ability to work inside

Aptitudes - Indicates an ability to:

think visually of geometric forms (S-spatial)
 comprehend the two dimensional representation of three-dimensional objects (S-spatial)
 recognize the relationship resulting from the movements of objects in space (S-spatial)
 perceive pertinent detail in objects in pictorial or graphic material (P-form perception)
 make visual comparisons and discriminations and see slight differences (P-form perception)
 perceive pertinent detail in verbal or tabular materials (Q-clerical perception)
 move the fingers and manipulate small objects with the fingers, rapidly or accurately
 (F-finger dexterity)

Temperament - Indicates an ability to adapt to:

making generalizations, evaluations, or decisions based on measurable or verifiable criteria
 situations requiring the precise attainment of set limits, tolerances, or standards

Vocational

Demonstrate knowledge of basic safety concepts

ELECTRONICS

Sample Occupational Areas

Electronic Mechanic	Electronics Inspector I
Electronics Assembler	Office Machine Servicer
Electronics Equipment Mechanic	

Math Skills

Count two-place numbers	Add two-place decimals
Add two-place numbers	Subtract two-place decimals
Subtract two-place numbers	Multiply two-place decimals
Use basic measuring instruments, i.e., rulers, scales	Divide two-place decimals
Multiply two-place numbers	Add surface areas, weights and measures
Divide two-place numbers	Subtract surface areas, weights and measures
Add common fractions	Multiply surface areas, weights and measures
Subtract common fractions	Divide surface areas, weights and measures
Multiply common fractions	
Divide common fractions	

Physical Demands/Working Environment

Lift 20 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 10 lbs.
(light work)

Extend the hands and arms in any direction (reaching)

Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)

Pick, pinch, or otherwise work with the fingers (fingering)

Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)

Ability to work inside

Aptitudes - Indicates an ability to:

perceive pertinent detail in objects in pictorial or graphic material (P-form perception)

make visual comparisons and discriminations and see slight differences (P-form perception)

coordinate eyes and hands or fingers rapidly and accurately (K-motor coordination)

make a movement response accurately and swiftly (K-motor coordination)

move the fingers and manipulate small objects with the fingers, rapidly or accurately
(F-finger dexterity)

match or discriminate between colors

identify a particular color or color combination

perceive contrasting color combinations

Temperament - Indicates an ability to adapt to:

making generalizations, evaluations, or decisions based on sensory or judgemental criteria

situations requiring the precise attainment of set limits, tolerances, or standards

Vocational

Identify basic hand tools and equipment

Use basic hand tools and equipment

Demonstrate knowledge of basic safety concepts

HEATING, AIR CONDITIONING, & REFRIGERATION

Sample Occupational Areas

Air Conditioning Installer/Service
Furnace Installer Helper
Furnace Installer/Repairer Helper

Refrigeration Mechanic
Sheet Metal Worker

Math Skills

Count two-place numbers
Add two-place numbers
Subtract two-place numbers
Perform standard units of measurement,
i.e., cup, pint, quart, inch, foot, yard,
ounce, pound
Use basic measuring instruments, i.e.,
rulers, scales
Multiply two-place numbers
Divide two-place numbers
Add common fractions
Subtract common fractions
Multiply common fractions

Divide common fractions
Add two-place decimals
Subtract two-place decimals
Multiply two-place decimals
Divide two-place decimals
Add surface areas, weights and measures
Subtract surface areas, weights and
measures
Multiply surface areas, weights and
measures
Divide surface areas, weights and
measures

Physical Demands/Working Environment

Lift 100 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 50 lbs.
(heavy work)
Ascend or descend, i.e., ladders, stairs, scaffolding, using the feet and legs and/or hands and
arms (climbing)
Maintain body equilibrium to prevent falling when walking, standing, crouching or running
(balancing)
Bend body downward and forward by bending the spine at the waist (stooping)
Bend legs at the knees to come to rest on the knee or knees (kneeling)
Bend body downward and forward by bending the legs and spine (crouching)
Move about on the hands and knees or hands and feet (crawling)
Extend the hands and arms in any direction (reaching)
Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)
Pick, pinch, or otherwise work with the fingers (fingering)
Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)
Ability to work both inside and outside
Ability to work in extreme noise, constant or intermittent, causing marked distraction or
possibly injury to hearing
Ability to work in extreme vibration, i.e., strain on body or extremities from repeated motion
or shock
Ability to work in hazardous situations, i.e., risk of bodily injury
Ability to work in hazardous conditions, i.e., fumes, odors, toxic conditions, dust and poor
ventilation

Aptitudes - Indicates an ability to:

perceive pertinent detail in objects in pictorial or graphic material (P-form perception)
make visual comparisons and discriminations and see slight differences (P-form perception)
coordinate eyes and hands or fingers rapidly and accurately (K-motor coordination)
make a movement response accurately and swiftly (K-motor coordination)
move the fingers and manipulate small objects with the fingers, rapidly or accurately
(F-finger dexterity)
move the hands easily and skillfully (M-manual dexterity)
work with the hands in placing and turning motions (M-manual dexterity)

Temperament - Indicates an ability to:

making generalizations, evaluations, or decisions based on measurable or verifiable criteria
situations requiring the precise attainment of set limits, tolerances, or standards

Vocational

Identify basic hand tools and equipment
Use basic hand tools and equipment
Demonstrate knowledge of basic safety concepts

MACHINIST

Sample Occupational Areas

Machinist Apprentice	Machinist, General
Machinist Apprentice, Outside	Machinist Helper, Marine
Machinist, Bench	

Math Skills

Count two-place numbers
Add two-place numbers
Subtract two-place numbers
Perform standard units of measurement,
i.e., cup, pint, quart, inch, foot, yard,
ounce, pound
Use basic measuring instruments, i.e.,
rulers, scales
Multiply two-place numbers
Divide two-place numbers
Add common fractions
Subtract common fractions
Multiply common fractions

Divide common fractions
Add two-place decimals
Subtract two-place decimals
Multiply two-place decimals
Divide two-place decimals
Add surface areas, weights and measures
Subtract surface areas, weights and
measures
Multiply surface areas, weights and
measures
Divide surface areas, weights and
measures

Physical Demands/Working Environment

Lift 50 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 25 lbs.
(Medium work)
Bend body downward and forward by bending the spine at the waist (stooping)
Bend legs at the knees to come to rest on the knee or knees (kneeling)
Bend body downward and forward by bending the legs and spine (crouching)
Move about on the hands and knees or hands and feet (crawling)
Extend the hands and arms in any direction (reaching)
Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)
Pick, pinch, or otherwise work with the fingers (fingering)
Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)
Ability to work inside
Ability to work in extreme noise, constant or intermittent, causing marked distraction or
possibly injury to hearing
Ability to work in extreme vibration, i.e., strain on body or extremities from repeated motion
or shock

Aptitudes - Indicates an ability to:

coordinate eyes and hands or fingers rapidly and accurately (K-motor coordination)
make a movement response accurately and swiftly (K-motor coordination)

Temperament - Indicates an ability to adapt to:

making generalizations, evaluations, or decisions based on sensory or judgemental criteria
situations requiring the precise attainment of set limits, tolerances, or standards

Vocational

Identify basic hand tools and equipment
Use basic hand tools and equipment
Demonstrate knowledge of basic safety concepts

OFFSET LITHOGRAPHY/PRINTING OCCUPATIONS

Sample Occupational Areas

Collator Operator

Offset Press Operator Apprentice

Photographer, Lithographic

Print Shop Helper

Math Skills

Count two-place numbers
Add two-place numbers
Subtract two-place numbers
Perform standard units of measurement,
i.e., cup, pint, quart, inch, foot, yard,
ounce, pound
Use basic measuring instruments, i.e.,
rulers, scales
Multiply two-place numbers

Divide two-place numbers
Add common fractions
Subtract common fractions
Multiply common fractions
Divide common fractions
Add two-place decimals
Subtract two-place decimals
Multiply two-place decimals
Divide two-place decimals

Physical Demands/Working Environment

Lift 20 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 10 lbs.
(light work)

Extend the hands and arms in any direction (reaching)

Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)

Pick, pinch, or otherwise work with the fingers (fingering)

Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)

Ability to work inside

Aptitudes - Indicates an ability to:

think visually of geometric forms (S-spatial)

comprehend the two dimensional representation of three-dimensional objects (S-spatial)

recognize the relationship resulting from the movements of objects in space (S-spatial)

perceive pertinent detail in objects in pictorial or graphic material (P-form perception)

make visual comparisons and discriminations and see slight differences (P-form perception)

coordinate eyes and hands or fingers rapidly and accurately (K-motor coordination)

make a movement response accurately and swiftly (K-motor coordination)

move the hands easily and skillfully (M-manual dexterity)

work with the hands in placing and turning motions (M-manual dexterity)

match or discriminate between colors

identify a particular color or color combination

perceive contrasting color combinations

Temperament - Indicates an ability to adapt to:

making generalizations, evaluations, or decisions based on measurable or verifiable criteria
situations requiring the precise attainment of set limits, tolerances, or standards

Vocational

Demonstrate knowledge of basic safety concepts

SMALL ENGINE REPAIR

Sample Occupational Areas

Engine Repairer, Production
Gas Engine Repairer

Power Saw Mechanics
Small Engine Mechanic

Math Skills

Count two-place numbers
Add two-place numbers
Subtract two-place numbers
Perform standard units of measurement,
i.e., cup, pint, quart, inch, foot, yard,
ounce, pound
Use basic measuring instruments, i.e.,
rulers, scales
Multiply two-place numbers

Divide two-place numbers
Add common fractions
Subtract common fractions
Multiply common fractions
Divide common fractions
Add two-place decimals
Subtract two-place decimals
Multiply two-place decimals
Divide two-place decimals

Physical Demands/Working Environment

Lift 50 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 25 lbs.
(Medium work)
Extend the hands and arms in any direction (reaching)
Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)
Pick, pinch, or otherwise work with the fingers (fingering)
Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)
Ability to work inside
Ability to work in extreme noise, constant or intermittent, causing marked distraction or
possibly injury to hearing
Ability to work in extreme vibration, i.e., strain on body or extremities from repeated motion
or shock

Aptitudes - Indicates an ability to:

think visually of geometric forms (S-spatial)
comprehend the two dimensional representation of three-dimensional objects (S-spatial)
recognize the relationship resulting from the movements of objects in space (S-spatial)
perceive pertinent detail in objects in pictorial or graphic material (P-form perception)
make visual comparisons and discriminations and see slight differences (P-form perception)
coordinate eyes and hands or fingers rapidly and accurately (K-motor coordination)
make a movement response accurately and swiftly (K-motor coordination)
move the fingers and manipulate small objects with the fingers, rapidly or accurately
(F-finger dexterity)

Temperament - Indicates an ability to adapt to:

making generalizations, evaluations, or decisions based on measurable or verifiable criteria
situations requiring the precise attainment of set limits, tolerances, or standards

Vocational

Identify basic hand tools and equipment
Use basic hand tools and equipment
Demonstrate knowledge of basic safety concepts

WELDING

Sample Occupational Areas

Gas Welding Equipment Mechanic
Welder Helper
Weld Inspector I

Welding Machine Helper, Arc
Welding Machine Operator, Gas
Welding Technician

Math Skills

Count two-place numbers
Add two-place numbers
Subtract two-place numbers
Perform standard units of measurement,
i.e., cup, pint, quart, inch, foot, yard,
ounce, pound
Use basic measuring instruments, i.e.,
rulers, scales
Multiply two-place numbers

Divide two-place numbers
Add common fractions
Subtract common fractions
Multiply common fractions
Divide common fractions
Add two-place decimals
Subtract two-place decimals
Multiply two-place decimals
Divide two-place decimals

Physical Demands/Working Environment

Lift 100 lbs. maximum with frequent lifting and/or carrying of objects weighing up to 50 lbs.
(heavy work)
Bend body downward and forward by bending the spine at the waist (stooping)
Bend legs at the knees to come to rest on the knee or knees (kneeling)
Bend body downward and forward by bending the legs and spine (crouching)
Move about on the hands and knees or hands and feet (crawling)
Extend the hands and arms in any direction (reaching)
Seize, hold, grasp, turn or otherwise work with the hand or hands (handling)
Pick, pinch, or otherwise work with the fingers (fingering)
Perceive size, shape, temperature or texture of objects and materials by using fingertips
(feeling)
Ability to work both inside and outside
Ability to work in extreme noise, constant or intermittent, causing marked distraction or
possibly injury to hearing
Ability to work in extreme vibration, i.e., strain on body or extremities from repeated motion
or shock
Ability to work in hazardous situations, i.e., risk of bodily injury
Ability to work in hazardous conditions, i.e., fumes, odors, toxic conditions, dust and poor
ventilation

Aptitudes - Indicates an ability to:

coordinate eyes and hands or fingers rapidly and accurately (K-motor coordination)
make a movement response accurately and swiftly (K-motor coordination)
move the fingers and manipulate small objects with the fingers, rapidly or accurately
(F-finger dexterity)
move the hands easily and skillfully (M-manual dexterity)
work with the hands in placing and turning motions (M-manual dexterity)

Temperament - Indicates an ability to:

performing repetitive work, or performing continuously the same work, according to set
procedures, sequences, or pace
situations requiring the precise attainment of set limits, tolerances, or standards

Vocational

Identify basic hand tools and equipment
Use basic hand tools and equipment
Demonstrate knowledge of basic safety concepts

EMPLOYABILITY AND STUDY SKILLS

EMPLOYABILITY SKILLS

Accept responsibility by participating in care of work area
Apply basic measurement concepts
Arrive on time
Ask questions when not certain of procedure
Communicate with peers
Communicate with those in authority
Complete questionnaire or job application form
Demonstrate attendance according to school policy
Demonstrate basic hygiene in care of body
Demonstrate basic personal grooming
Dress appropriately
Follow multiple step oral directions
Follow multiple step written directions
Identify strategy for gaining job related information
Organize work spaces and materials
Show respect for property of others
Speak clearly with a pleasant tone
Tell time
Use a calendar
Use basic safety concepts
Use/Communicate on the telephone
Work independently with minimal supervision
Write or print legibly

STUDY SKILLS

Locate information using index of manuals and texts
Locate information using table of contents of manuals and texts
Obtain notes/instructions from chalkboard/bulletin board
Proofread to identify errors
Read charts, graphs, tables and diagrams
Read reference lists
Use a calculator
Use a dictionary to check spelling
Use a dictionary to find word meaning